

I claim:

1. An image controller comprising:

an input member with associated sensors, said input member moveable on at least two axes;

5 a plurality of finger depressible buttons with associated sensors;

a sheet structurally connecting, at least in part, to the sensors of said input member, and said sheet structurally connecting, at least in part, to the sensors of said finger depressible buttons; said sheet having

electrically conductive traces located on said sheet, said electrically conductive traces electrically connecting with the sensors of said input member, and said electrically conductive traces electrically connecting with the sensors of said finger depressible buttons;

said image controller is connected to an image generation device;

at least one of the finger depressible buttons is structured with a resilient dome cap;

20 a pressure-sensitive variable sensor is the sensor associated with said at least one of the finger depressible buttons, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied; and

25 tactile feedback means mounted as a component of said controller for providing vibration to be felt by a hand operating said controller, said tactile feedback means including a motor with shaft and a weight.

2. An image controller according to claim 1 in which said sheet comprises

a flexible membrane sheet.

3. An image controller comprising:

an input member movable on at least two axes, said input member having associated sensors; and

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~~at least one sheet connecting to the sensors of said input member, and said at least one sheet connecting to the sensors of said finger depressible buttons;~~

at least one of the finger depressible buttons is structured with a resilient dome cap;

active tactile feedback means mounted as a component of said controller for providing vibration to be felt by a hand operating said controller.

4. An image controller according to claim 3 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

5. An image controller according to claim 3 wherein said active tactile feedback means comprises an electric motor with shaft and offset weight.

6. An image controller according to claim 5 wherein said at least one sheet comprises a substantially flexible sheet.

7. An image controller according to claim 6 wherein said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

8. An image controller comprising:
an input member with associated sensors, said input member
moveable on at least two axes; and
a plurality of finger depressible buttons with associated
sensors; and

at least one sheet connecting to the sensors of said input
member, and said at least one sheet connecting to the
sensors of said finger depressible buttons;

tactile feedback means mounted as a component of said
controller for providing vibration to be felt by a hand
operating said controller, said tactile feedback means
comprising an electric motor with shaft and offset weight.

9. An image controller according to claim 8 in which at
least one of the finger depressible buttons is structured
with a resilient dome cap.

10. An image controller according to claim 9 in which
said image controller is connected to an image generation
device.

11. An image controller according to claim 10 in which
said image generation device includes a television based
electronic game.

12. An image controller according to claim 11 wherein
said at least one sheet comprises
a flexible membrane sheet.

13. An image controller according to claim 12 in which
a plunger is positioned above said dome cap, said plunger
comprising a non-conductive rigid plastic material.

14. An image controller according to claim 8 in which
said at least one of the finger depressible buttons is
associated with a pressure-sensitive variable sensor for

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providing a proportional signal, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

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15. An image controller according to claim 8 in which said at least one sheet comprises a flexible membrane sheet connected to a second sheet.

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16. An image controller according to claim 15 in which said second sheet is a circuit board.

17. An image controller according to claim 15 in which said second sheet is a rigid support structure for said flexible membrane sheet.

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18. An image controller according to claim 16 in which said at least one sheet comprises said flexible membrane sheet further supported by a third sheet, said third sheet is a rigid membrane support structure.

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19. An image controller according to claim 18 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor for providing a proportional signal, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing the level of depressive pressure applied.

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20. An image controller according to claim 19 wherein said pressure-sensitive variable sensor includes an electrically conductive pill carried by said dome shaped member; said electrically conductive pill comprising deformable material and having a convexed surface shape, whereby when said button is depressed with increasing input

pressure the convexed shaped material deforms to contact additional surface area to provide additional conductivity changes.

5 21. A method of using an image controller, wherein the steps comprise:

inputing three-dimensional object commands from a human hand into said image controller, and

sensing vibration with the hand as a tactile feedback provided by said image controller.

10 22. A method of using an image controller according to claim 21 further including the step

inputing three-dimensional viewpoint navigating commands from the hand into said image controller.

15 23. A method of using an image controller according to claim 22 wherein said controlling of three-dimensional objects results in the tactile feedback vibration.

24. A method of using an image controller according to claim 22 including the step

20 interacting, at least in part according to said sensing of vibration, by inputing the commands from the hand into said image controller.

25. A method of using an image controller according to claim 24 wherein said controlling of three-dimensional objects results in the tactile feedback vibration.

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